What is claimed is:

1   1.   A method for handling mobile database overflow,

2   registering an un-registered mobile user located in a

3   location area, comprising the steps of:

4   obtaining a registration request from a first mobile

5   user;

6   determining whether the database of a visitor

7   location register (VLR) is full;

8   registering the first mobile user to a home location

9   register (HLR) if the database of the VLR is

10   not full;

11   temporarily storing user data of the first mobile

12   user in the VLR;

13   translating the location information of a second

14   mobile user registered in the VLR into a second

15   location code if the database of the VLR is

16   full;

17   transferring the registration request and the second

18   location code to the HLR;

19   resetting the value of a first location code of the

20   first mobile user as a predetermined value; and

21   deleting user data of the second mobile user and

22   temporarily storing the user data of the first

23   mobile user in the VLR.

1   2.   The method as claimed in claim 1, wherein the

2   VLR comprises a location information table.

1   3.   The method as claimed in claim 2, wherein the

2   location information table comprises a location code

3   field, a location area identifier (LAI) field, and a

4   Mobile Switch Center (MSC) address field.

1   4.   The method as claimed in claim 1, wherein the

2   registering step translates the location information of

3   the second location code into a second location code.

1   5.   The method as claimed in claim 1, wherein an

2   extra field is added to the HLR for storing location

3   codes.

1   6.   A system for handling mobile database overflow,

2   registering an un-registered mobile user located in a

3   location area comprising a first mobile user sending a

4   registration request and a second mobile user, at least

5   comprising:

6   a VLR, storing user data of the second mobile user

7   and receiving the registration request of the

8   first mobile user; and

9   an HLR, processing the registration request of the

10   first mobile user, wherein the VLR determines

11   whether its database thereof is full, the first

12   mobile user is registered to the HLR if the

13   database is not full, user data of the first

14   mobile user is temporarily stored in the VLR,

15   location information of the second mobile user

16   is translated into a second location code if

17   the database is full, the registration request

18   and second location code are transferred to the

19   HLR, the value of a first location code of the

20   first mobile user is reset as a predetermined

21   value, the user data of the second mobile user

22   is deleted, and the user data of the first

23   mobile user is temporarily stored in the VLR.

1   7.   The system as claimed in claim 6, wherein the

2 VLR comprises a location information table.

1   8.   The system as claimed in claim 7, wherein the

2 location information table comprises a location code

3 field, an LAI field, and an MSC address field.

1   9.   The system as claimed in claim 6, wherein the

2 second location code of the second mobile user is stored

3 in the HLR when the first mobile user is registered to

4 the HLR.

1   10. The system as claimed in claim 6, wherein an

2 extra field is added to the HLR for storing location

3 codes.

1   11. A method for handling mobile database overflow,

2 by searching for an overflow user, comprising the steps

3 of:

4   Searching for the mobile user when receiving a call

5   request to a mobile user;

6   determining whether the value of the location code

7   of the mobile user is a predetermined value;

8   setting up the call between the caller and the

9   mobile user if the value of the location code

10   is the predetermined value;

11   obtaining the location information of the mobile

12   user in accordance with the location code and a

13   location information table if the value of the

14   location code is not the predetermined value;

15   and

16   re-registering the mobile user for communication.

1   12.   The method as claimed in claim 11, wherein the

2 step of obtaining the location information of the mobile

3 user further comprises the steps of:

4 a VLR obtaining the location code corresponding to

5   the mobile user from an HLR;

6 the VLR looking up the location information table

7   using the location code of the mobile user to

8   obtain an MSC address and an LAI of a location

9   area;

10 the VLR informing the MSC of the location area where

11   the mobile user resides;

12 the MSC notifying the BSC of the location area to

13   search for the location of the mobile user;

14 the BSC obtaining the location of the mobile user by

15   broadcasting to the location area;

16 the MSC obtaining the location of the mobile user

17   from the BSC;

18 the VLR obtaining the location of the mobile user

19   from the MSC; and

20 the VLR notifying the HLR of the location of the

21   mobile user and re-registering the user

22   information in its database.

1   13.   The method as claimed in claim 12, wherein the

2 location information table comprises a location code

3 field, an LAI field, and an MSC address field.

1   14.   The method as claimed in claim 12, wherein an

2 extra field is added to the HLR for storing location

3 codes.

1   15.   A system for handling mobile database overflow

2 to find the location of an overflow user to deliver a

3 call, comprising a mobile user, at least comprising:

4   a VLR, comprising a location information table; and

5   . an HLR wherein the HLR determines whether the value

6   of the location code of the mobile user is the

7   predetermined value when receiving a call

8   request to the mobile user, the system sets up

9   the call between the caller and the mobile user

10   if the value of the location code is the

11   predetermined value, the location information

12   of the mobile user is obtained in accordance

13   with the location code and a location

14   information table if the value of the location

15   code is not the predetermined value, and the

16   mobile user is re-registered.

1   16.   The system as claimed in claim 15, further

2 comprising a process for obtaining the location

3 information, wherein the HLR sends the location code of

4 the mobile user to the VLR, the VLR looks up the location

5 information table using the location code of the mobile

6 user to obtain an MSC address and an LAI of a location

7 area for the mobile user, the VLR informs the MSC of the

8 location area where the mobile user resides, the MSC

9 notifies the BSC of the location area to search for the

10 location of the mobile user, the BSC obtains the location

11 of the mobile user by broadcasting to the location area,

12 the MSC obtains the location of the mobile user from the

13 BSC, the VLR obtains the location of the mobile user from

14 the MSC, the VLR notifies the HLR of the location of the

15 mobile user and re-registers the user information in its

16 database.

1   17. The system as claimed in claim 16, wherein the

2 location information table comprises a location code

3 field, an LAI field, and an MSC address field.

1   18. The system as claimed in claim 16, wherein an

2 extra field is added to the HLR for storing the location

3 codes.